CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/CEMENT/2016-17 Date: 23.01.2017

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Cement
Sample Received on	:	21.01.2017
Period of Testing	:	21.01.2017 to 23.01.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	170 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

AEE(VRP) SD

Civil-Tech Consultants & Engineers Bangalore

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

****

VISHWANATH C.
Quality Manager

AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/SAND-Gradation/2016-17 23.01.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Fine Aggregates
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	:	21.01.2017
Date of Testing	:	23.01.2017

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.10	90-100	90-100	90-100	95-100
2.36	77.90	60-95	75-100	85-100	95-100
1.18	55.90	30-70	55-90	75-100	90-100
600 Micron	25.90	15-34	35-59	60-79	80-100
300 Micron	12.40	5-20	8-30	12-40	15-50
150 Micron	3.40	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

AEE (VRP)SD

Civil-Tech Consultants & Engineers Bangalore

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

VISHWANATH C.
Quality Manager

****

Jadhav
AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/AGG/GR/2016-17

23.01.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	21.01.2017
Date of Testing	:	23.01.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.28	95-100	85-100
20	34.78	30-70	0-20
10	14.38	10-35	0-5
4.75	1.88	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

AEE (VRP) SD

Civil-Tech Consultants & Engineers Bangalore

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

VISHWANATH C.
Quality Manager

Sadhu
AE

****

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/Steel/2016-17 23.01.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008
Date of Testing	:	23.01.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	512	514	13.2	O.K	O.K

*Information is furnished by the Customer/Representative.

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

AEE (VRP) SD

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

Jadhav
AE

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/Cube/2016-17 27.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of the work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	27.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.01.2017	27.02.2017	8.120	475.5	21.13
2	30.01.2017	27.02.2017	8.265	492.6	21.89
3	30.01.2017	27.02.2017	8.335	508.4	22.60

3

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

Civil-Tech Consultants & Engineers Bangalore

AEE (VRP) SD

VISHWANATH C.
Quality Manager

Radha
AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/Cube/2016-17 27.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of the work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	27.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.01.2017	27.02.2017	8.280	489.6	21.76
2	30.01.2017	27.02.2017	8.366	516.3	22.95
3	30.01.2017	27.02.2017	8.405	529.6	23.54

*Information is furnished by the Customer/Representative.

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

Civil-Tech Consultants & Engineers Bangalore

VISHWANATH C.
Quality Manager

AEE (VRP) SD

Jadha
AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/Cube/2016-17 27.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of the work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	27.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.01.2017	27.02.2017	8.268	480.3	21.35
2	30.01.2017	27.02.2017	8.395	490.6	21.80
3	30.01.2017	27.02.2017	8.423	518.3	23.04

*Information is furnished by the Customer/Representative.

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

AEE (VRP) BTP

VISHWANATH C.
Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RA/W.No.09/CSR-01/252f/Cube/2016-17 27.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of the work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	27.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.01.2017	27.02.2017	8.099	485.5	21.58
2	30.01.2017	27.02.2017	8.268	492.6	21.89
3	30.01.2017	27.02.2017	8.335	516.8	22.97

*Information is furnished by the Customer/Representative.

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

AEE (MRP) SD

Civil-Tech Consultants & Engineers Bangalore

VISHWANATH C.
Quality Manager

Sadha
AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/WMM/Gradation/2016-17 10.02.2017

TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
Sample ID	:	Wet Mix Macadam
Technical Reference	:	IS 2386 (part-1)1963 (RA-2016)
Date of Testing	:	10.02.2017

Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-11
53	0	0	0	100	100
45	165	165	3.3	96.7	95-100
22.4	1590	1755	35.10	64.90	60-80
11.2	1030	2785	55.70	44.30	40-60
4.75	580	3365	67.30	32.70	25-40
2.36	495	3860	77.20	22.80	15-30
0.600	515	4375	87.50	12.50	8-22
0.075	500	4875	97.50	2.50	0-8

*Information is furnished by the Customer/Representative.

AE (VRP) CD

Civil-Tech Consultants & Engineers Bangalore

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

Sadhu
AE

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/WMM/AIV/2016-17

10.02.2017

TEST REPORT ON IMPACT VALUE OF AGGREGATE

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Wet Mix Macadam
Technical Reference	:	IS: 2386 Part IV
Date of Testing	:	10.02.2017

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	382	383	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	80	81	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	302	
4	Aggregate Impact value = percent fines 100* (W2/W1)%	20.94	21.15	21.05

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Wet Mix Macadam is 30%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

AEE (NRP) ED

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

Jadha
AE

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/WMM/Shape.T/2016-17 10.02.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Wet Mix Macadam
Technical Reference	:	IS 2386(Part 1) 1963 (RA 2016)
Date of Testing	:	10.02.2017

Sl.No.	Description	Result
1	Flakiness Index	12.35%
2	Elongation Index	13.92%
3	Combined Flakiness & Elongation Index	26.27%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

AEE (VPP) SD

Zadha AE

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/BM/Bitumen/2016-17 03.03.2017

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As per IS2386 and IRC:SP:11-1984

*CUSTOMER	**Asst. Executive Engineer,** Hebbal Sub Division, BBMP, Bangalore.
*AGENCY	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
*NAME OF THE WORK	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
*REFERENCE	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
SAMPLE I/D	Roads in HMT 1st, 2nd & 3rd Block in Ward No.09
DATE OF TESTING	03.03.2017

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	483	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	17	18.00
7. Bitumen content in %	3.40	3.60
8. Average	**3.50**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	26.35	5.46	5.46	94.54	90-100
13.2	152.6	31.59	37.05	62.95	56-88
4.75	174.3	36.09	73.14	26.86	16-36
2.36	46.33	9.59	82.73	17.27	4-19
0.3	43.36	8.98	91.71	8.29	2-10
0.075	13.56	2.81	94.51	5.49	0-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
26.5	0	0	0	100	100
19	25.65	5.13	5.13	94.87	90-100
13.2	156.9	31.38	36.51	63.49	56-88
4.75	178.5	35.70	72.21	27.79	16-36
2.36	85.15	17.03	89.24	10.76	4-19
0.3	32.25	6.45	95.69	4.31	2-10
0.075	6.85	1.37	97.06	2.94	0-8

AEE (VRP) SD

* Information is furnished by the Customer/Representative

Note:

→ This test report should not be reproduced except in full, without written approval of the laboratory.

→ The results indicated above are based on the tests carried out on the samples received in the laboratory.

→ Any Query regarding the report must be reported within 30 days from the date of testing.

Civil-tech Consultants & Engineers

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathinagar, Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No: CTCE/BBMP/RA/W.No.09/BC/Bitumen/2016-17 04.03.2017

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

As per IS2386 and IRC:SP:11-1984

* Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
SAMPLE I/D	Roads in HMT 1st, 2nd & 3rd Block in Ward No.09
DATE OF TESTING	04.03.2017

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	470	469
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	30	31
7. Bitumen content in %	6.00	6.20
8. Average	**6.10**	

GRADATION AFTER EXTRACTION

TABLE - 1

SIEVE SIZE	Percent Passing, %		JOBMIX
mm	Sample 1	Sample 2	Gradation
19	100.00	100.00	100
13.2	88.35	89.35	79-100
9.5	80.23	79.25	70-88
4.75	62.35	66.35	53-71
2.36	48.25	44.25	42-58
1.18	42.36	42.32	34-48
0.6	31.25	30.23	26-38
0.3	25.62	21.32	18-28
0.15	12.32	15.23	12-20
0.075	6.35	6.32	4-10

*Information is furnished by the Customer/Representative.

AEE (VRP) CC

Civil-Tech Consultants & Engineers Bangalore

Note:

⇒ This test report should not be reproduced except in full, without written approval of the laboratory

⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory

⇒ Any Query regarding the report must be reported within 30 days from the date of testing

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No: CTCE/BBMP/RA/W.No.09/BC/AIV/2016-17 04.03.2017

TEST REPORT ON IMPACT VALUE OF AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Hot Mix Plant, Bangalore
Technical Reference	:	IS : 2386(Part -4)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	04.03.2017

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	388	389	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	303	303	
4	Aggregate Impact value = percent fines 100* (W2/W1)%	21.91	22.11	**22.01**

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Concrete is 27%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any query regarding the report must be reported within 30 days from the date of testing.

AEE (VRP) SD

Civil-Tech Consultants & Engineers Bangalore

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079

Sodha AE

****

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/BC/Shape.T/2016-17 04.03.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Hot Mix Plant, Bangalore
Technical Reference	:	IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	04.03.2017

Sl.No.	Description	Result
1	Flakiness Index	11.95%
2	Elongation Index	13.92%
3	Combined Flakiness & Elongation Index	25.87%

*Information is furnished by the Customer/Representative.

Comments:

⇒ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

Note:

⇒ The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples received in the

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

AEE VRP I SD

Civil-Tech Consultants & Engineers Bangalore

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079

Jadhav
AE

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No: CTCE/BBMP/RA/W.No.09/BC/Stripping/2016-17 04.03.2017

TEST REPORT ON STRIPPING VALUE OF ROAD AGGREGATE (STATIC IMMERSION TEST)

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
Technical reference	:	IS: 6241
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	04.03.2017

Type of binder : 80/100
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	2.9	3.03	96.97
2	3.0		
3	3.2		

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Concrete is 95%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

Jadhao
AE

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No: CTCE/BBMP/RA/W.No.09/BC/Sp_Wa/2016-17 04.03.2017

TEST REEPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
Technical reference	:	IS : 2386(Part -3)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	04.03.2017

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 2	
1	Weight of aggregate suspended in water with the basket	W_1 g	2010	2011	2012	
2	Weight of basket suspended in water	W_2 g	750	750	750	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1260	1261	1262	
4	Weight of saturated surface dry aggregate in air	W_3 g	2012	2016	2015	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	752	755	753	
6	Weight of oven dried aggregate	W_4 g	2002	2003	2004	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.662	2.653	2.661	2.662
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.698	2.699	2.701	2.699
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.50%	0.65%	0.55%	0.57%

*Information is furnished by the Customer/Representative.

AEE(VRP) SD

Comments:

→ Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/SDBC/Bitumen/2016-17 06.03.2017

BITUMEN CONTENT AND GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
NAME OF THE WORK	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
SAMPLE I/D	Roads in HMT 1st, 2nd & 3rd Block in Ward No.09
DATE OF TESTING	06.03.2017

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475.5	473.5
3. Weight of Asphalt and Mineral matter Extracted,	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	24.5	26.50
7. Bitumen content in %	4.90	5.30
8. Average	**5.10**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	35.26	7.42	7.42	92.58	90-100
4.75	260.3	54.74	62.16	37.84	35-51
2.36	33.25	6.99	69.15	30.85	24-39
1.18	43.26	9.10	78.25	21.75	15-30
0.3	46.32	9.74	87.99	12.01	9-19
0.075	32.25	6.78	94.77	5.23	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	33.26	6.65	6.65	93.35	90-100
4.75	260.3	52.06	58.71	41.29	35-51
2.36	59.12	11.82	70.54	29.46	24-39
1.18	44.36	8.87	79.41	20.59	15-30
0.3	35.12	7.02	86.43	13.57	9-19
0.075	40.25	8.05	94.48	5.52	3-8

*Information is furnished by the Customer/Representative.

AEE (VRP)SD

Note:

- This test report should not be reproduced except in full, without written approval of the laboratory.
- The results indicated above are based on the tests carried out on the samples received in the laboratory.
- Any Query regarding the report must be reported within 30 days from the date of testing.

Civil-tech Consultants & Engineers, Bangalore

AE

Civil-tech Consultants & Engineers

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathinagar, Basaveshwaranagar, Bangalore-560 079

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/SDBC/AIV/2016-17 06.03.2017

TEST REPORT ON AGGREGATE IMPACT VALUE

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of the Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Semi Dense Bituminous Concrete
Technical Reference	:	IS : 2386 (Part-4)-1963 (RA-2011)
Type of Mix	:	Hot Mix Plant, Bangalore
Date of Testing	:	06.03.2017

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	382	384	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	82	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	301	
4	Aggregate Impact value = percent fines 100* (W_2/W_1)%	21.47	21.61	21.54

* Information is furnished by the Customer/Representative

Comments:

→ Maximum allowable Aggregate Impact value for Semi Dense Bituminous Concrete is 27%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

AEE (VRP) SD

Civil-Tech Consultants & Engineers Bangalore

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar
Basaveshwaranagar, Bangalore-560 079.

****

Zodha AE

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/SDBC/Shape_T/2016-17 06.03.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
Sample ID	:	Semi Dense Bituminous Concrete
Technical Reference	:	IS : 2386(Part -1)-1963 (RA-2011)
Date of Testing	:	06.03.2017

Sl.No.	Description	Result
1	Flakiness Index	11.35%
2	Elongation Index	13.90%
3	Combined Flakiness & Elongation Index	25.25%

* Information is furnished by the Customer/Representative

Comments:

Maximum allowable Flakiness & Elongation Index for Semi Dense Bituminous Concrete is 30%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

AEE (WRP) CD

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079

Jodha
AE

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/SDBC/Stripping/2016-17 06.03.2017

TEST REPORT ON STRIPPING VALUE OF ROAD AGGREGATES (STATIC IMMERSION TEST)

*** Customer**	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
*** Agency**	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
*** Name of the work**	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
*** Reference**	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
*** Sample ID**	:	Semi Dense Bituminous Concrete
Technical Reference	:	IS: 6241
Date of Testing	:	06.03.2017

Civil-Tech Consultants & Engineers — Civil Engineering Testing Laboratory

Type of binder : 80/100
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping,	Average,	Average Retained
1	3.3	3.40	96.60
2	3.4		
3	3.5		

Civil-Tech Consultants & Engineers Bangalore

* Information is furnished by the Customer/Representative

Comments:

⇒ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

AEE (NPP) SD

AE

****

Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar
Basaveshwaranagar, Bangalore-560 079

CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RA/W.No.09/SDBC/Sp_Wa/2016-17 06.03.2017

TEST REPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION TEST

* Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Ramesh Anand,** #174, 3rd Main Road, AECS Layout, 1st Stage, Sanjaynagara, Bangalore.
* Name of the Work	:	Improvements to roads and drains at HMT 1st, 2nd & 3rd Block in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/101/2016-17 Dated: 05.08.2016
* Sample ID	:	Semi Dense Bituminous Concrete
Technical Reference	:	IS : 2386 (Part-3)-1963 (RA-2011)
Type of Mix	:	Hotmix Plant, Bangalore
Date of Testing	:	06.03.2017

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2019	2018	2015	
2	Weight of basket suspended in water	W_2 g	755	2020	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1264	1263	1260	
4	Weight of saturated surface dry aggregate in air	W_3 g	2012	2013	2014	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	748	750	754	
6	Weight of oven dried aggregate	W_4 g	2001	2002	2003	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.675	2.669	2.656	2.667
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.715	2.709	2.696	2.707
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.55%	0.55%	0.55%	0.55%

* Information is furnished by the Customer/Representative

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2.0%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

Civil-tech Consultants & Engineers

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79

Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com